

**To:** Engelking, Pat (MPCA)[pat.engelking@state.mn.us]  
**From:** Engelking, Pat (MPCA)  
**Sent:** Tue 2/11/2014 8:56:59 PM  
**Subject:** FW: Recommendation - rank the data first  
[20140206081525885.pdf](#)

**From:** Joe Mayasich [<mailto:Joe.Mayasich@wlssd.com>]  
**Sent:** Thursday, February 06, 2014 9:03 AM  
**To:** Swain, Ed (MPCA); Monson, Phil (MPCA); Lotthammer, Shannon (MPCA)  
**Subject:** Recommendation - rank the data first

Ranking (percentiles, quintiles, quartiles ...) the field data is a logical first step to revealing hints of differences and/or trends. The attached (rough) rendering is based on the initial step of ranking the Relative Rice Abundances (left ordinate and black ink) in order to establish the order of the Water Bodies (abscissa). With this template, another key parameter (SO<sub>4</sub>, Sulfide, Fe etc.) can then be added to the Water Body via the right ordinate (red ink). The template can be used repeatedly to show each single key parameter separately or, if the scales of key parameters are compatible, more than key parameter can be added to a single template.

Joe M. Mayasich, Ph.D.

Director of Environmental Services

Western Lake Superior Sanitary District

2626 Courtland St.

Duluth, MN 55806-1894

[Joe.mayasich@wlssd.com](mailto:Joe.mayasich@wlssd.com)

(218) 722-3336 ext.306

Direct Line (218) 740-4806

FAX (218) 727-7471